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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/875,284	06/07/2001	Tadayoshi Kosaka	1466.1038	5079

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STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

NGUYEN, KIMNHUNG T

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 04/06/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/875,284

Applicant(s)

KOSAKA ET AL.

Examiner

Kimnhung Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-19 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2-3, 6, 1
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Application has been examined. The claims 1-19 are pending. The examination results are as following.

Drawings

1. Figures 5-6, 16, 17A-17D and 18 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Prior Art of figures 5, 16 and 20 (admitted by Applicant).

Regarding claim 1, Prior Art of figure 16 discloses a driving method of a display panel having a plurality of scan electrodes arranged in the column direction and a plurality of data electrodes arranged in the row direction of the screen, comprising a line sequential addressing for controlling potential of the data electrode in synchronization with row

selection by individual potential control of the scan electrode, wherein when n-th display data as well as (n+1) th display data (see figure 16, see display elements of a first row and second row are equal in the (m+1) column, see specification page 1, lines 25-26) and are different between the neighboring data electrodes and n-th display data are different from (n+1)th display data in each of the data electrodes (see figure 20, see page 3, lines 18-30), stored charge due to capacitance between the neighboring data electrodes is discharged by connecting one of the data electrodes to a power source line and by connecting the other data electrode to the power source line via a forward direction diode (D1 or D2, figure 5) before switching the potential corresponding to the n-th display data to the potential corresponding to the (n+1)th display data.

Allowable Subject Matter

4. Claims 2-19 are allowed.

The following is an examiner's statement of reasons for allowance: The present invention is directed to display device comprising a display panel including a plurality of scan electrodes arranged in the column direction and a plurality of data electrodes arranged in the row direction of a screen and a driving circuit for controlling potential of the scan electrodes and the data electrodes in accordance with binary display data, wherein each of the data electrodes is provided with means for controlling the potential in binary manner. The closest prior art, Tomio et al. (US patent 6,522,314) and Ide (US patent 6,333,738) show a similar display system having a plurality of data electrodes arranged in the row direction of a screen and a driving circuit for

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controlling potential of the scan electrodes and the data electrodes in accordance with binary display data. Sano et al. (US patent 5,717,437 cited by Application), wherein each of the data electrodes is provided with means for controlling the potential in binary, which is a switching circuit of push-pull structure including a pair of switching elements for connecting a current supply terminal of the driving power source with the data electrode and a backward current path including a diode, connected in parallel with the two switching elements. However, they fail to teach each of the data electrodes is further provided with a signal generating circuit that a first switching signal to the switching element of the current sink side, the first switching signal corresponding to a combination of display data given at every switching of the row selection and a timing signal repeating on and off by a row selection period in synchronization with the row selection and gives in the addressing a second switching signal to the switching element of the current supply side, the second switching signal corresponding to a combination of the display data and delayed signal of the timing signal as claim 2, or each of the data electrodes is further provided with a signal generating circuit and a signal delay circuit, the signal generating circuit giving in the addressing a first switching signal which corresponds to a combination of display data given at every switching of the row selection and a timing signal repeating on and off by a row selection period in synchronization with the row selection to the switching element of the current sink side, and the signal delay circuit giving in the addressing a second switching signal that is a delayed first switching signal to the switching element of the current supply side as claim 4, or the on and off timings of the switching element corresponding to an odd data electrode in an arrangement are different from the on and off timings of the switching element corresponding to an even electrode in the addressing as claim 5, or a signal delay circuit is

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provided for delaying the on and off timings of the switching element of the current supply side from the on and off timings of the switching element of the current side as claim 18, or a logic circuit for generating a switching signal corresponding to a combination of display data from the delay circuit and a timing signal repeating on and off by a row selection; and the switching element is controlled by the switching signal as claim 19.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimnhung Nguyen whose telephone number (703) 308-0425.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D. C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only).

Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive, Arlington, VA Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Kimnhung Nguyen
April 2, 2004

A handwritten signature in black ink, appearing to read 'R. Hjerpe', with a stylized, cursive script.

**RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**